

EPSCoR and the National Context for Global Change Research and Practice

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National Response to Global Change

- Building resilience in the face of climate change is now becoming an urgent imperative at all levels of government
- **Executive Order 13514:** "Federal Leadership in Environmental, Energy, and Economic Performance"
- Institutionalizing federal agency adaptation planning
- Embedded within broader concept of sustainability

Knowledge base to support these efforts ...

The U.S. Global Change Research Program:

Roles, Responsibilities, and Partnerships

- The U.S. Global Change Research Program (USGCRP) mandated by Global Change Research Act of 1990
- *“To provide for development and coordination of a comprehensive and integrated United States Research Program which will assist the Nation and the world to **understand, assess, predict, and respond** to human-induced and natural processes of global change.”*
- Provides center of gravity for linking global change science with efforts to respond



The U.S. Global Change Research Program:

New Vision and Mission

Four Strategic Goals:

1. Advance Science
2. Inform Decisions
3. Conduct Sustained Assessments
4. Communicate and Educate

"Fundamental, use-inspired research"

- Scientific knowledge base in dynamic interaction with new, societally-facing arms of the program
- Transcend old USGCRP boundaries into critical areas of societal need and partnerships
- Move science into action
- Several key places where "USGCRP of the future" emerging into practice



<http://library.globalchange.gov/u-s-global-change-research-program-strategic-plan-2012-2021>

Big picture - national mission: We need to do the right science; we need to move science into action

USGCRP transition:

- large-scale problems of basic biophysical understanding (e.g., global climate change and its mechanisms) to ...
- ... highly distributed, contextualized, regional-scale problems across natural and social sciences (e.g., vulnerabilities and responses)

Poses a challenge for the federal government:

- Want to stay connected - figuring out what role the centralized, top-down part of the enterprise should play
- Getting better at seeding, incubating
- But bringing back/synthesizing is something we're struggling with
- Also struggling with how best to support the marriage of top-down and bottom-up in a sustained sense

EPSCoR brings unique capacity to this challenge:

- Incredible access within a state (governor's office, business community); perfect for piloting different ways of moving science into action
- A lot of data collection out there to be leveraged in the biophysical and social sciences; wealth of information on the ground supported by EPSCoR

Opportunities to become involved in more national-level endeavors related to understanding and responding to global change

Where to plug in:

- "national-scale" national efforts (e.g., NCA, social sciences initiatives)
- "regional-scale" national efforts (e.g., CSCs, LCCs, RISAs, extension and environmental information services)

U.S. National Climate Assessment (NCA)

(March 2014)

Regions & Biogeographical Cross-Cuts

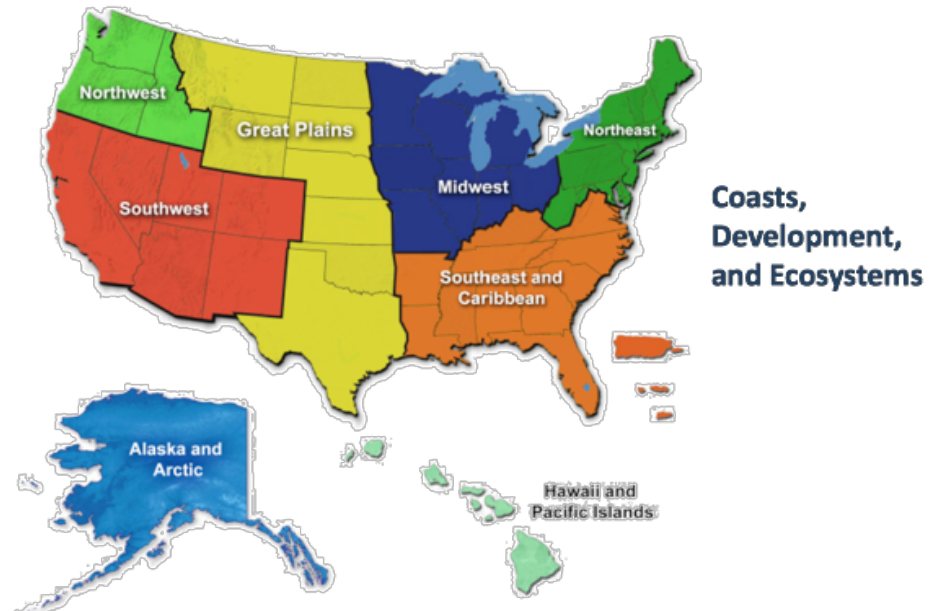
Oceans and
Marine
Resources

Sectors

- Water Resources
- Energy Supply and Use
- Transportation
- Agriculture
- Forestry
- Ecosystems and Biodiversity
- Human Health

Sectoral Cross-Cuts

- Water, Energy, and Land Use
- Urban Systems, Infrastructure, and Vulnerability
- Impacts of Climate Change on Tribal, Indigenous, and Native Lands and Resources
- Land Use and Land Cover Change
- Rural Communities
- Biogeochemical Cycles



U.S. National Climate Assessment (NCA)

(March 2014)

Required by GCRA of 1990 to conduct national assessment not < every 4 years

New vision: *Advance an **inclusive, broad-based, and sustained process** for assessing and communicating scientific knowledge of the impacts, risks, and vulnerabilities associated with a changing global climate in support of **decision-making across the United States**.*

Differs from previous efforts:

- Long-term, consistent, and ongoing process for evaluation of climate risks; **sustained capacity both inside and outside government**
- Distributed: leveraging technical inputs of stakeholders and scientists across the country; **NCAnet – a network of more than 75 organizations representing a broad set of professional societies, NGOs, science networks and academic organizations (www.ncanet.usgcrp.gov).**
- Aimed at informing decision-making processes **within regions and sectors**

SBE Sciences in USGCRP Context

Needs recognized in the new USGCRP Strategic Plan:

- Account better for human actions in integrated Earth system
- Ask questions that arise from looking at GC challenge from social sciences perspective
- Help design and implement institutional arrangements, to achieve "public values" mandates of USGCRP (e.g., support adaptation)
- Respond to high demand for broader stakeholder participation in science-based decision processes

Actions (USGCRP Social Sciences Task Force):

- Propose strategic investments in social science research that resonate with agency missions and can be implemented in the near term
- Leverage existing work and institutional arrangements to use science to meet national needs
- Build capacity to do any/all of this
- **Study efforts to move science into action; synthesis, lessons learned**

Key Messages

Need to do the "right" (integrated, regional, inter- and transdisciplinary) science; need to move science into action; challenging - struggling at the federal level to figure out how to support this

EPSCoR community has unique capacity to really assist with this and the national-level effort (in addition to the regional contributions)

A variety of places to plug in

Some discussion questions:

- Where would focusing both state and federal research dollars make the biggest difference in the most critical problems?
- What sort of additional synergies between states could we realize if we brought additional national-scale investment in?

Additional Information

USGCRP

<http://www.globalchange.gov/>

The new decadal strategic plan for USGCRP

<http://library.globalchange.gov/u-s-global-change-research-program-strategic-plan-2012-2021>

The National Climate Assessment Draft Report

<http://ncadac.globalchange.gov/>

NCAnet

<http://ncanet.usgcrp.gov/>